

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE  
(Rev. 2-92) PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.: 065435-9002

SERIAL NO.: 09/763,767

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT:

APPLICANT: Thurston *et al.*

(Use several sheets if necessary)

FILING DATE: February 26, 2001

GROUP: ~~1614~~ 1624

### U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
BC	1	3,523,941	Aug. 11, 1970	Leimgruber <i>et al.</i>	260	239.3	
BC	2	4,239,683	Dec. 16, 1980	Takanabe <i>et al.</i> (Arakawa Yoshio <i>et al.</i> )	260	239.3T	
BC	3	3,524,849	Aug. 18, 1970	Batcho <i>et al.</i>	260	239.3	

### FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
BC	4	JP 58 180 487	Oct. 21, 1983	Japan	—	—	X
BC	5	JP 57 131 791	Aug. 14, 1982	Japan	—	—	X
BC	6	GB 1 299 198	Dec. 6, 1972	Great Britain	—	—	
BC	7	FR 2 586 683	Mar. 6, 1987	France	—	—	X
BC	8	WO 97/01560	Jan. 16, 1997	PCT	—	—	
BC	9	WO 92/19620	Nov. 12, 1992	PCT	—	—	X
BC	10	WO 93/18045	Sep. 16, 1993	PCT	—	—	

### OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

BC	11	Courtney, S. M. <i>et al.</i> , "A new convenient procedure for the synthesis of pyrrolo[2,1-c][1,4]benzodiazepines", <i>Tetrahedron Letters</i> , vol. 34, no. 33, 5327-28 (1993).
BC	12	Chemical Abstract No. 171573p, O'Neil, "The synthesis of Functionalized Pyrrolo-[2,1-c][1,4]-Benzodiazepines", <i>Chemical Abstracts</i> , vol. 126, no. 13, 618 (1997) and entire article.
BC	13	Chemical Abstract No. 4427a, Umezawa, "Mazethramycins" <i>Chemical Abstracts</i> , vol. 90, no. 1, 428 (1979).
BC	14	Chemical Abstract No. 239940r, Farmer, "DNA binding properties of a new class of linked anthramycin analogs", <i>Chemical Abstracts</i> , vol. 114, no. 25, 25 (1991) and entire article.
BC	15	Gregson, S. J. <i>et al.</i> , "Synthesis of a novel C2/C2'-exo unsaturated pyrrolobenzodiazepine cross-linking agent with remarkable DNA binding affinity and cytotoxicity", <i>Chemical Communications</i> , 797-798 (1999).
BC	16	O'Neil, I. A. <i>et al.</i> , "DPPE: A Convenient Replacement for Triphenylphosphine in the Staudinger and Mitsunobu Reactions", <i>Tetrahedron Letters</i> , vol. 39, no. 42, 7787-7790 (1998).
BC	17	Guiotto A. <i>et al.</i> , "Synthesis of novel C7-aryl substituted pyrrolo [2,1-c] [1,4]benzodiazepines (PBDs) via Pro-N10-troc protection and suzuki coupling", <i>Bioorganic &amp; Medicinal Chemistry Letters</i> , vol. 8, no. 21, 3017-3018 (1998).

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Brenda Coleman

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May 20, 2002

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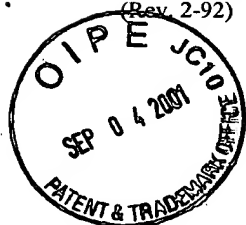
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BC	18	Thurston, D. E., <i>et al.</i> , "Effect of A-ring modifications on the DNA-binding behavior and cytotoxicity of pyrrolo[2,1-c][1,4]benzodiazepines", <i>Journal of Medicinal Chemistry</i> , vol. 42, 1951-1964 (1999).
BC	19	Chemical Abstract No. 72145x, Fujisawa, "Benzodiazepine derivatives", <i>Chemical Abstracts</i> , vol. 98, no. 9, 638 (1983).
BC	20	Leimgruber <i>et al.</i> , <i>J. Am. Chem. Soc.</i> , 87, 5793-5795 (1965)
BC	21	Leimgruber <i>et al.</i> , <i>J. Am. Chem. Soc.</i> , 87, 5791-5793 (1965).
BC	22	Thurston <i>et al.</i> , <i>Chem. Rev.</i> , 1994, 433-465 (1994).
BC	23	Hochlowski <i>et al.</i> , <i>J. Antibiotics</i> , 40, 145-148 (1987).
BC	24	Konishi <i>et al.</i> , <i>J. Antibiotics</i> , 37, 200-206 (1984)..
BC	25	Thurston <i>et al.</i> , <i>Chem. Brit.</i> , 26, 767-772 (1990).
BC	26	Rose <i>et al.</i> , <i>Tetrahedron</i> , 48, 751-758 (1992).
BC	27	Kunimoto <i>et al.</i> , <i>J. Antibiotics</i> , 33, 665-667 (1980).
BC	28	Takeuchi <i>et al.</i> , <i>J. Antibiotics</i> , 29, 93-96 (1976).
BC	29	Tsunakawa, <i>et al.</i> , <i>J. Antibiotics</i> , 41, 1366-1373 (1988).
BC	30	Shimizu <i>et al.</i> , <i>J. Antibiotics</i> , 29, 2492-2503 (1982).
BC	31	Langley and Thurston, <i>J. Org. Chem.</i> , 52, 91-97 (1987).
BC	32	Hara <i>et al.</i> , <i>J. Antibiotics</i> , 41, 702,704 (1988).
BC	33	Itoh <i>et al.</i> , <i>J. Antibiotics</i> , 41, 1281-1284 (1988).
BC	34	Leber <i>et al.</i> , <i>J. Am. Chem. Soc.</i> , 110, 2992-2993 (1988).
BC	35	Arima <i>et al.</i> , <i>J. Antibiotics</i> , 25, 437-444 (1972).
BC	36	Kohn, <i>Antibiotics III</i> , Springer-Verlag, NY, 3-11 (1975).
BC	37	Hurley and Needham-VanDevanter, <i>Acc. Chem. Res.</i> , 19, 230-237 (1986).
BC	38	Leimgruber, W., Batcho, A. D., Czajkowski, R. J., <i>J. Am. Chem. Soc.</i> , 90, 5641 (1968).
BC	39	Bridges, R. J., Stanley, M. S., Anderson, M. W., Cotman, C. W., Chamberlain, R. A., <i>J. Med. Chem.</i> , 34, 717 (1991).
BC	40	Dangles, O., Guibé, F., Balavoine, G., Lavielle, S., Marquet, A., <i>J. Org. Chem.</i> , 52, 4984 (1987).
BC	41	Althuis, T. H. and Hess, H. J., <i>J. Medicinal Chem.</i> , 20(1), 146-266 (1977).
BC	42	Thurston, D.E., "Advances in the study of Pyrrolo[2,1-c][4,1] benzodiazepine (PBD) Antitumour Antibiotics", <i>Molecular Aspects of Anticancer Drug-DNA interactions</i> , Neidle, S., Waring, M.J. eds., Macmillan Press Ltd., 1: 54-88 (1993).
BC	43	Gregson, S.J., <i>et al.</i> , "Design, Synthesis and Evaluation of a Novel Pyrrolbenzodiazepine DNA-Interactive Agent with Highly Efficient Cross-Linking Ability and Potent Cytotoxicity", <i>J. Med. Chem.</i> , 44: 737-748 (2001).
BC	44	Gregson, S.J., <i>et al.</i> , "Effect of C2- <i>exo</i> Unsaturation on the Cytotoxicity and DNA-Binding Reactivity of Pyrrolo[2,1-c][1,4]benzodiazepines", <i>Bioorganic &amp; Medicinal Chemistry Letters</i> , 10: 1845-1847 (2000).

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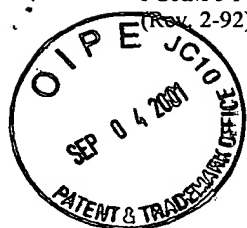
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BC	45	Baraldi, P.G., <i>et al.</i> , "Synthesis, in Vitro Antiproliferative Activity, and DNA-Binding Properties of Hybrid Molecules Containing Pyrrolo[2,1-c][1,4]benzodiazepine and Minor-Groove-Binding Oligopyrrole Carriers", <i>J. Med. Chem.</i> , 42: 5131-5141 (1999).
BC	46	Wilson, S.C. <i>et al.</i> , "Design, Synthesis, and Evaluation of a Novel Sequence-Selective Epoxide-Containing DNA Cross-Linking Agent Based on the Pyrrolo[2,1-c][1,4]benzodiazepine System", <i>J. Med. Chem.</i> 42:4028-4041 (1999).
BC	47	Thurston, D.E., <i>et al.</i> , "Effect of A-Ring Modifications on the DNA-Binding Behavior and Cytotoxicity of Pyrrolo[2,1-c][1,4]benzodiazepines" <i>J. Med. Chem.</i> , 42: 1951-1964 (1999).
BC	48	Nagasaka, T., <i>et al.</i> , <i>Tetrahedron Letters</i> , vol. 30, no. 14, 1871-72 (1989).
BC	49	Fukuyama, T., <i>et al.</i> , <i>Tetrahedron Letters</i> , vol. 34, no. 16, 2577-2580 (1993).
BC	50	Wilson, S.C., <i>et al.</i> , <i>Tetrahedron Letters</i> , vol. 36, no. 35, 6333-6336 (1995).
BC	51	Nagasaka, T., <i>et al.</i> , <i>J. of Organic Chemistry</i> , vol. 36, no. 20, 6797-6801 (1998).
BC	52	Baraldi, P.G., <i>et al.</i> , <i>Bioorganic &amp; Medicinal Chemistry Letters</i> , vol. 8, no. 21, 3019-3024 (1998).
BC	53	Bi, Y., <i>et al.</i> , <i>Bioorganic &amp; Medicinal Chemistry Letters</i> , vol. 6, no. 19, 2299-2300 (1996).
BC	54	Chemical Abstracts No. 139983k, Fujisawa, <i>Chemical Abstracts</i> , vol. 99, no. 17, 603 (1983).
BC	55	Thurston, D.E., <i>et al.</i> , <i>Chemical Communications</i> , 563-565 (1996).
BC	56	Chemical Abstracts No. 300965y, Bi, Y., <i>et al.</i> , <i>Chemical Abstracts</i> , vol. 125, no. 23, 1013 (1996).

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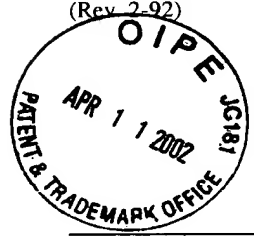
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BC	57	4,185,016	Jan 22, 1980	Takanabe <i>et al.</i>	260	239.3T	

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
BC	58	2 027 356	29 Dec 1969	France	—	—	X

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

BC	59	Foloppe, M.P., <i>et al.</i> , "DNA-binding properties of pyrrolo[2,1-c][1,4]benzodiazepine N10-C11 amidines" <i>Eur. J. Med. Chem.</i> , 31, 407-410 (1996).
BC	60	Kamal, A., <i>et al.</i> , "An Efficient Synthesis of Pyrrolo[2,1-c][1,4]benzodiazepine Antibiotics via Reductive Cyclization" <i>Bioorganic &amp; Medicinal Chemical Letters</i> , 7, 14, 1825-1828 (1997)
BC	61	Kamal, A., <i>et al.</i> , "Synthesis of Pyrrolo[2,1-c][1,4]benzodiazepine Antibiotics: Oxidation of Cyclic Secondary Amine With TPAP" <i>Tetrahedron Ltrs</i> , 53, 9, 3223-3230 (1997).
BC	62	Thurston, D.E., <i>et al.</i> , "Synthesis of Sequence-Selective C8-Linked Pyrrolo[2,1-c][1,4]benzodiazepine DNA Interstrand Cross-Linked Agents" <i>J. Org. Chem.</i> , 61, 8141-8147 (1996).
duplicate	63	<del>Thurston, D.E., <i>et al.</i>, <i>Chem. Rev.</i>, 94, 433-465 (1994).</del>

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